

A-Q
Always Bring this Book.



Mrs. Syer

IN ACCOUNT WITH

Chas. H. Schoulen

DEALER IN

CHOICE BEEF,

MUTTON, LAMB, VEAL, PORK,

Hams, Bacon, Corned Beef,

TONGUES, ETC.

—:O:—

POULTRY & GAME

IN SEASON.

—:O:—

Goods Promptly Delivered, Free of Expense.

texture, semitransparent,
Pupa Eyes prominent, ceca free, the
wing cases small. abd. cylindrical
slightly tapering. Color dark green
the legs colorless, eye black and
2 blackish shades on the thorax and
well as at base of wing cases. ✓
An imago June 23. All black.

Schizocerus n. sp.

Steinmetz Nov 9

Schizocerus fumipennis

By m

^{OUT}
Sawfly A

Feb 12 1893

Sawfly on bean *Hosackia grandiflora*
^{Ad 1 mm wide}
Ypsaritis June 1891. Ad rounded,
wider than high, mouth pointed. Clear
green, shaded with black across the
middle, ocelli black, mouth brownish.
Ths. feet large, abd. small present
on 5-10 & 13. A slight S-V ridge
body then creased & covered with
round smooth conical warts like
elevations. Uniform green, the dorsal
recessed appearing darker; a stigmatal
row of black dots. The anal plate
terminates in 4 pointed blunt projections
tipped with black, & there are 2 other
along the anus. Ths. feet dusky.
The larva is small, length about 10 mm.
Another anal plate blacker
found on the back of a leaf
flat, rounded, symmetrical, of
yellowish silk of loose and fluffy

^{OUT}
S 7 B

V

^{aquilina}
On fern (Pteris) Portland Or. June 1892
^{solid}
Ad round, pale, whitish with a faint
blackish mottled line from above eye to
venter: eye large, round, black. ^{gape}
dark brown. Body, the feet large, bent
outward, abd on 6-12 & 13 feet; thickly
annulated, 6 per seg, shiny translucent
green with a white sd line running
whole length, nearly joining at ends.
Spiracles small, black, joined by
a thread like white line being the
tracheae showing by transparency.
L 20 mm: w. hd about 1.5 mm.

June 16 turned red & lived in rotten wood

Out May 21, 1893 (Roxbury Mass)

Strongylogaster longulus
Pacific

OUT

C

On gooseberry (*Vernatus ribesii*?) Brooding
May 30, 1893 mature? Hd wide than
high (1.4 mm) rounded above, flat below
shiny black, yellow about the mouth
covered with inconspicuous short stiff

hairs. Abd. feet on 6-11 & 13. Body blue
green, yellow on 2, 12 & 13 post. The
feet black ^{as base of tip.} on each seg. 3 transverse

rows of large ^{shiny} elevated black spots
each bearing a short stiff black seta

centrally & the following arrangement —

Ant. row of 3 spots, middle of 4,

post of 4, but irregular & extremely

lower down than the middle row;

A large lateral spot bears 5 setae;

2, contiguous above base of leg, bearing

several setae, minute black dot on

legs. venter immaculate

One shed (sh. hd 1.5) splitting the head

Calc. .51 .73 1.0 1.5 var 7

Found $\frac{5}{I}$ $\frac{7}{II}$ $\frac{1.0}{III}$ $\frac{1.5}{IV}$ $\frac{1.5}{V}$

as in pupation (of moths) and came out

without any black spots & immediately

entered the ground. Description of it. (?)

without any elevated black spots. ^{but minute pilose} smooth

no setae. Hd green, eye black w 1.5

Body light green, marked with

yellowish on 2 & 12+13. Abd. feet ^{6-11, 13} present

(Another hd 1.8 shed, new hd 1.8. The head

comes out of the old one & runs from the neck

Imago June 11 ♂♂ & ♀♀

Second brood June 30 Eggs cylindrical, rounded

at the ends, straight or slightly curved

very shiny translucent white, soft,

much like skin on shell. Skins

collapse after larvae hatches.

L. 1.2 mm. width 6 mm. Length

wise along the rib of a leaf on

the under side in rows at varying

distances for contiguous. In saw cuts

(cont after F)

OUT

D

Sawflies on poplar, Roxbury June 4
 Hd smooth shiny black, a little pale
 around the mouth or pale distinction
 with black eyes. w 1.3 mm body green,
 slightly shiny, annulate, abd feet
 on 6-11 & 13, but very small on 13
 2 trans. rows of elevated black spots, ^{peas}
 minute on the back, confluent lateral
 and larger, especially 2 sub-ventral
 rows. Color leaf green, darker along
 the back, 12 tinged with yellowish
 the feet greenish or tinged with
 black at base. → Spots obsolete post
 On shed (July 1) & disappeared. Spots gone.

flies before Apr 13, 1894

Form most dark brown real cocoon
 that on ♀ - larger than ♂, in ground
Nematode monochroma

Perichlita
subtruncata EA

Out March 23
1897

On young black oak Van Cortlandt
Park, N. Y. May 9 1896.

Hd .6 mm Pale brown dotted or green
 green, a black patch in ♂ eye
 antennae black. Body light
 yellowish green, d. vessel dark
 green, Y-spine paler except the
 thoracic ones which are black
 tipped. Feet 6-12 13. Thoracic
 scarcely visible above, clean with
 smoky tips.

May 9 Hd .9 Patch on ♂ brown
 Body green, d. vessel less con-
 trasting.

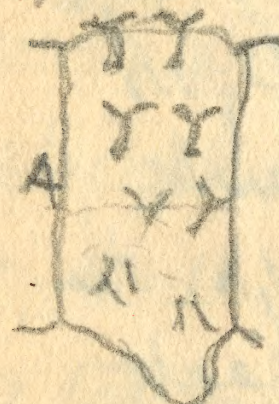
Wet May 11 Hd 1.1 green, ♂ brownish
 eye black, mouth brown. Body rather
 opaque green, a little whitish d.
 from diffuse fat, d. vessel darker
 green. Y spine whitish dark tipped
 2-3, faintly in 14

May 14 shiny jacket (Sh hds 1-1) smooth
 waxy greenish, eye black mouth brown
 shiny indistinct annulate, d. vessel green

E (1896)

On oak of black oak Van Cotenudt
Park ny. May 18 1896

Hd same exactly as E, w. $1.3 \pm$ mm &
length $12\frac{1}{2}$ mm. Feet 6-12, 13 are
spines not black tipped anywhere.

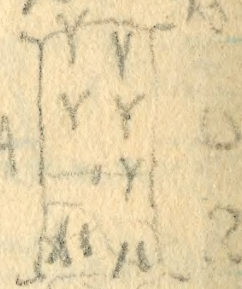


but a little dusky at the
ends of body esp on 13.
No markings. scarcely at all
annulate.

may be sunny jacket. Like E. hd greenish
also eye black. Center of body more
yellowish than ends.

Ant of Apr 11, 1897 Monophadnus

Another on black oak Bellman Wana ny.
May 18 1897 Spine all pale. Spine same
no single spine behind the spine-
acle as in 7BA. Hd $7\pm$



may be Hd 1.2 Shade of green vells
patch is a single transverse. Body
green spine all pale, same. may be patch
is a double. Spine behind spiracle
present, indistinct $\frac{1}{2}$ in obj stump small



another Bellman 2. June 3 1897. Black
on head strong but in front. bands
up from edge. Twin spot in Δ . Spine
all pale, one behind spiracle evident
& lens.

from a cell in
round line with
a black secretion

OUT

Memorandum
Fly Apr 13 1898

On black oak, Forest Hills. June 4, 1893

Hd wider than high; round above smooth
green, eye black with a blackish spot
from end to vertex; 2 contiguous
black spots on upper part of clypeus
Feet on 6-11 & 13. Body smooth, not
annulate, S-V region folded. Imper
green with 2 transverse rows per
sq. of processes, Y-shaped (Y) in a
longitudinal plane. They are ① vent
dorsal, 2; ② dorsal 2; ③ S-S 1; ④ ⑤
S-V, small, 1 each, not in line.

Sit on the back of a young leaf singly
and eat holes flat ways. w. hd $1.4?$

Length 12 mm Ant 8 sp. Spine are
black tipped. Mould smooth, annulate
with slightly elevated concolorous warts.
In place of processes, inconspicuous. Feet 6-12,

13-14, Pale greenish concolorous, head pale testaceous
w. hd 1.4

more on white oak Branch Park May 22. Darker in
uniform in some S-V region and a little lighter
not contrasting. Point vary in distinctness. FA-F 1893

On white oak, Franklin Park June 4
Singly, on the end of a little out
midrib of ~~leaf~~ like a young *Liriodendron*.

Hd round, flat in front, about as high
as wide & slightly narrowed below, smooth
shiny black; w. 1.3 mm. Abd feet on
6-12, (small on 11 & 12) and 13 post.

Smooth annulate (3 per seg) with increased
trace of setae as obscure dots and the
or slate color

lens. Winking olivaceous blackish,
above grayish white laterally &
ventrally; the feet black. In some

a blackish line along base of legs.
Another had a dead cherry stone

colored head, was all dull reddish
whitish with an olivaceous blackish

broken superstigmatal blend
Curl then first segments around the

perch and reach out with all the
thoracic feet in the air

The feet pale, black at base. A little bloom on head.
May 23 2 to 5 same, shiny waxy. No feet heads seen
no points. Hd dusky black pale on face. Abd waxy
speckled a black lat shade from diffuse above
the sides, of light head. F went in

ground Out March 27 *Hemichysa*
fraternalis ^{3 perches}

On white oak Pelham Bay Park May 18 1897
Singly but several on same tree each on perch
of top of midrib from which rest of leaf
eaten off. Hd on 11 by thoracic feet and black.

Hd 4 rounded dull dusky, eye black. Body annulate
dull reddish grayish green with short black
points, uniform. A dark line on base the feet
Hd 6 solid whitish gray post, eye black.

Body slate gray, whitish below spiracles as
in next stage.

Hd 1 in leader black, small. Segs 6 annulate
black points on 2nd and 4th. Body slaty gray,
more or less whitish S-V below spiracles, a
dusky shade along S-V folds. The feet
largely black abd small 6-12, 13. White
waxy grayish white. (Hd 1.4)

May 19 Hd 1.4 Solid leader 5 and back of head
main black antennae, eye black. Dorsum leader
black annulate head plain just dorsally
except in measures, below spiracle near white

the S-V fold marked in blackish forming
a double row of dashes. The feet largely
black abd pale. Segs 6 annulate black
points on 2nd and 4th small. Grow rapidly

& much. Later more greenish, dorsum greenish gray
pale down at first. May 21 Hd 1.6-1.8 Black,
feet pale & gray ventral or light fleshy brown. Body
solid gray greenish, whitish S-V, a lateral
leader gray shade found leading, sty line green
abdomen & dusky, marked on S-V fold. Points

C (cont)

Stage I Ho large, round, ^{as} wide ^{as} high. Translucent shiny white ^{mouth brown} eye black, w. 5 mm (full) Body large slender, compressed & covered with very minute short pile, all entirely translucent white. Late the green foot contained in the abdominal canal shows by transparency. Length $2\frac{1}{2}$ mm before ecdysis. The larva reaches out along back of leaf & to rib with thin hind feet near apex of shell & into bark through the forming the beijing of the circular holes in the edges of which they sit. These holes become confluent as reach edge of leaf when the larvae sit on the edge to maturity. Late the head turns blackish & the thor. feet and s-s elevation are shaded with black. W. ho still .52 mm. Holes about 4 mm in diam.

Anal prolegs slender, black.

One ho. 7 mm Stage II. Sh. ho. seen by their split like pupation of moth but apparently about 5 mm wide. Ho blackish, pale around mouth; mouth dark, shiny with short pile. Body abt 6-11, 13. The 1st large, marked with black. Body translucent, but green by food, the food absent & a slight yellowish tinge on 2 & 12. 2 trans. rows per seg. of slender black dots each bearing a short stiff seta. S-S a series of large dots, one per seg. & 2 smaller ones below. Line of spiracles indicated by a white cord seen by transparency. The large mouth bears several setae. Another ho. 1.0 Stage III Ho shiny black, a little pale around mouth & clypeus covered with short stiff setae. Thor legs black with translucent white marks. Anal plate & prolegs

black. Large elevated smooth
black setiferous tubercles. Setae
black, short stiff. 2, 12 & 13 feet
yellowish, the rest of the body whitish
appearing green from food. Arrangement
of tubercles & structure as in next
stage. Length about 8 mm

In the egg the larva lies up on its
back, folded up double ~~or~~ or
normally, the other side up, the head
at one end of the egg. They appear
to bite a little at the skin &
pinfold lying there.*

Even just after molting before the
black has come the larvae are
green & between 2 & 12 where
food is not all cast out or cast
down there? Looks like food

*They try to uncurl and break the
skin at the back and writhe
out

G ^{OUT}
Sawflies on rose, pushing the top side
all over & sitting flat on venter
Hd. longer than wide rounded & wide
through eyes. Pale brown, not shiny
Eyes & mouth black. Width 1 mm
Abd. feet 6 - (8 pair)
not seen from dorsal view (not in 13 ant.)
The feet not large. Smooth sub-
transparent yellowish, broad green
d. from food, annulate, not shiny
without marks. Underlines very
slight inconspicuous pointed elevation
represent the usual dot. These
are faintly blackish toward extremity
Another (shed?) same but no green. all
pale honey yellow ^{almost whitish} Hd 1.0 mm. Ali-
mentary canal first. shows blackish
a sh. hd 1.0 Perfectly smooth
a 1.1 { Another Hd 1.0, sh. hd 1.0.

[Perfectly smooth a yellow
imagos 4/28/94 diet annulate, 6 per seg.
Univertegia rosae Han

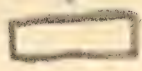
OUT

H See *Emplytus*
cinctus (= *cinctus*)

Samplings on rose, eating whole leaf
at the edge, rest curled apically
on the back, tail on top. Hd
well rounded, flat on chylens, pale
brown, eye large, black, mouth
blackish. Ant. chry, a blackish
annular stripe on the summit of
head longitudinal, d, but short.
(sub 1.5) w. 1.2 mm Body feet 6-12, 13 post
This feet large, seen from dorsal
view slender, but not markedly
so. Green d. ^{thin spots along bases of legs} rather dark;
whitish subtransverse s-v & v
and a feet. Minute white pointed
conical dots on the green part
arranged in 3 trans. rows per seg.
on the 1, 2, 6 & 4 annulets (6 in all)
annulets (has 2 each side s-d
" 2 annulets have 2 s-d, 1 2 lat

* i.e. a large round black spot with a
single cell in the center of it

These dots also occur s-s but
are very inconspicuous on the pale
ground color below the white
end of the tracheae showing by
transparency. The green color
becomes darker just i.e. is inter-
rupted at 12, showing that it is
partly due to the food in alimentary canal.
Anched & anted ground. Hd shiny
slight perched. Pale straw yellow
with large ^{black} eye spot w. 1.5 mm Body
annulets, 6-annulets without any
tubercles at all, colored as before
d. color blackish green esp. on 2 (ant pale)
Later black shade on vertex of hd
& d. color dark green; but hd is shiny
pale brown than before & there are
no white dots on the body.
Forms cell in ground with no silk. walls not consistent
Images July 31, 1893 *Emplytus cinctus*

padawan find 48 type 1
 snep 14552 1887 

Calc .48
 Found .5

.67 .88 1.16 1.52 2.0 wt .76
 .7 .9 1.2 1.5 2.0

Larch sawfly, Wood-Hall, Mass
 July 8, 1893. Hd about as high as
 wide, full at vertex, flat in front
 with a dept. like depression center
 and a row of 4 transverse large
 punctures below it. No trace of
 lobes to head, the vertex centrally
 outline from before almost circular
 very very slight quadangular
 entering shiny black. ev. 1.5 mm
6 or 7 pairs of small ventral glands, first 5
 Legs 6-11, 13, body curled over back
 thorax 3-shaped. sit by the feet
 as a needle (leaf). 3 large annulets
 above, a trace of oth smaller ones
 per seg. smooth below. Hair
 of trachea by transparency.
 The feet shiny black with a
 greenish central band & black
 dots. Body whitish green, ant

very translucent & only slight
 shiny, apparently unmarked
 but under lens show many minute
 elevated dots, arrayed in single
 transverse rows on the 2 first.
 annulets & on the short lateral
 (trans.) fold which alternates with
 these annulets but in this ag-
 gromerated patches s-v, the upper
 ant. (s.s), the lower just on 2
 slight elevation of the skin.
 (Found also the dead shoot when the
 eggs had been punched, causing its death)
 other lvs 2.0 the same shape but dif-
 ferent sculptured in front & less shiny
 chypers faint well marked with
 2 vertical grooves, somewhat wrinkled
 a depression on each side of it and
 one above. Body as before but ok

all dead Images May 6 1896
Landed from H.H.

4x6 mm. green 'moss' on 8, on
whole dorsal region except on 2 & 3

shaded with blackish green down
the spiracles. Base of this large black-
ish green, tip black. Rest of body
whitish with green tint. The

annular elevated setiferous dots
are pale greenish, slightly metallic
visible to naked eye. Fine (5)

annulet, the first on small, not
marked, sometimes appearing as less

elevated dots set close on 2 & 4 and
laterally on 3, also first set on 3-4

and 5 set on the S-V fold.

Another No 1.2 Same as 1.5 but

Another No 7 HD shiny black with some
small dots & front. The feet blackish
red, translucent greenish white, the
dots scarcely perceptible even with lens
like a fine black pepper

Another No 9 same as No 5. Black shiny
brown around mouth. Body almost white
no annules. The feet large, blackish
enter grows within & molting cover under

out

(at Plattsburgh
on Black oaks)

White

Oak slug on white oak, Woodstock
Mass. July 4, 1893. HD under the high

apex pointed but rounded, outer
I angular, pyriform, under though
above eyes. Shiny black smooth,

mouth ^{intermax} pale, the latter
projecting with a seta centrally (?)

is .5 mm. HD slightly retracted. Body
very thick through the seg. Then

first & then gradually tapering
7th, feet spreading. Ant covered to d.
view by the wide throat, ^{blackish lined} 8 pair of

abd feet, normal, 6-12, 13 post,
but not elevated. Larva rears slug

like on back of leaf and grubs
Body transparent, very shiny,

watery, slightly greenish. Food
glaring visible. It is really shiny

as seen by putting a finger on

Calc .18 .25 .35 .5 .7 .7
 Found .25 .35 .5 .7 .7

Lat. 70

but it is not a slug and walks with its feet normally.

First stage .25 horn oval, bluish around eye, mouth pale. Same as above. Laid from above. Ovals in circular areas, cut one side before hatching. Spiders on under side. Areas about 1.2 mm in diam.

Laid near top of them in this instance. A lot of little fungus .2 mm in diam right near them. (Two larvae one had .5 with a .35^{sh} on leaf; the other had .35)

July 11. Larva 7. Head .7. Head as before but pale whitish yellow, color of honey caramels, eye black. Body not shiny, scarcely more than translucent, same whitish yellow color, rounded with range on the sides. Enlarged this seg. 5 with 2 d. transverse white lines, seg. 5 on 5th foot, the ant. short, feet reaching lat., representing the normally tuberculated annulets. Antennae green.

OUT
K

5 ventral area of glass
7 pm. 6th inst.

White Birch S-f, Woods Hole, July 5 1893
 Heard Bull at sunset well rounded

July 25 at. 2. 1893
 In pond from an oval cell formed of gran. of earth cemented together by a horn secretion which lines the inside of the cavity. Pattern hard but brittle.

Pupa closely resembling the mature insect except that the wings are rudimentary and the color is uniform yellowish white, the eyes black.

Monostegia quercus-alba with greenish

on dead corn ground heavily shaded with greenish black, the

Calc. 18 .25 .35 .5 .7 .7
 Found .25 .35 .5 .7 .7 Rat. 70

but it is not a slug and walks with its feet normally.

First shed 25 hours

apparently hairs
 Eggs in circle
 of diam. before
 spider was

Calioa

absoluta

4407895

189

1.2 mm in

230, then

a lot of lit. ass.

right mean

with a .34

July 6
 Shed: 4d 7.1

Body same

July 11 Shed

but pale w

caramels

scarcely any

whitish eye

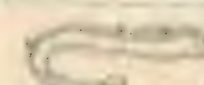
on the sides of enlarged this
 transparent white, three pe
 and short, foot reaching lat. 1 representing this.
 normally tuberculated annulate. Entered period

9385
 9386
 9387
 9388
 9389
 9390

OUT
 K

5 ventral pairs of glands
 7 pr. 6th pair.

White Birch S-f, Woodboll, July 5 1893

It was full at vertex, well rounded
 not pointed, no trace of antenna; flat
 on front over clypeus, with a few
 slight clypeal denticles. Entirely shiny
 black, w. 1.6 mm. Body indistinctly
 4-annulate, watery-shiny; smooth,
 no dots, but minute black setae
 presents them. The feet large,
 spreading, black, pale centrally.
 abd. on 6-11, 13, with a medio-
 ventral excretable gland, first to
 each pair 6-10. Gland larger than
 set, colored rather darker than body,
 when disturbed body elevated
 S-shaped or  glands quickly
 retracted & retracted color ground
 waxy yellow heavily shaded
 with greenish black, the

Cole
Found

logically appearing in 2 ant & on abd
legs, and symmetrically.

Next Stage Hd 2.2 Same but smooth.
Eyes are setae distinguishable 2, the
of d a stig irregular bands & abd. feet
honey yellow, leaving the black
abdominal, most distinct s-d and
substigmatally, forming a series of
a very black s-d patches, or spreading
w largely over the body. It is shiny black.
St July 11. Emptied intestines like black, same
R 1 entered ground. on skin skin seen
from beneath ground, elliptical,
in center thick, opaque, black, 11x4

Cole... 37 .53 .75 1.08 1.54 2.2 ratio 70

Found .4 .55 .75 1.05 1.6 2.2

Image Aug 1893 Graculus latitans

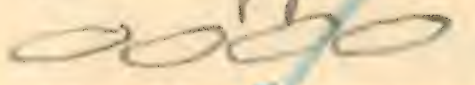
.31 .42 .56 .76 L 1.0 1.4 (1.9) rat .74
.3w .4 .55 .75 L 1.1 1.4 1.4-7

Alder 5 samples, Woodstock, July 8, 1893.

K.

Eggs on white birch July 9, 1893

Laid closely along the ^{larger vein} ~~midrib~~
on the under side, about $\frac{1}{2}$
enclosed in central cuts which
they have swelled out so that
the egg bunch obliquely

 Soft translucent
white $\frac{1}{4} \times .6$ mm ^(the head .4) ^{minuted fine} ^{lined & banded}
Stage hd .4 w .45 eating holes

confluent in leaf near egg hole
& hatching body. Hd round,
a little higher than wide, full
at vertex, shining black
Body light shiny greenish
Tubercles very obscure, not
setiferous, only the s-v distinct
those near concolorous with
body, large, rounded, 1/2 size.

Graculus (size, unmounted) sub-
ventrally in the black patches

Cole
found

.31	.42	.56	.76	L	1.0	1.4	1.9	rat. 74
.3	.4	.55	.75	L	1.1	1.4	1.4-7	

Older samples, Woodstock, July 8, 1893.

On black birch Jefferson Highlands
N.H. June 26 1895. Well grown.

logically appearing in 2 ant & on abd

legs. a The ft. blackish, segs.

Next etc obscure annulate. The

an acts alimentary canal give a

d & st green shade

1. honey, Aug 5 Hds. .55 very smooth even

2. black brownish black, pale above

a. Subst. Body olive green, the

a. very d. s-v ridge and feet blackish

w. largely smooth; an acts: seen.

8. July 11 & molt Aug 7 (sh. hd. .75, new hd 1.05)

R. 1. ante. 1.40 black, the ft. black except at

je. Coon be joint. Body same.

h. a. ant. [Aug 7 found plenty of both .55 and .75

sh. hd. in the corn, but could not

dem. any .4. do they have

the stage?]

Cloesus latitarsus Norton

Found .4 .55 .75 1.05 1.6 2.2

Orange Aug 1 1893 Cloesus latitarsus

under
on one
tapering
the
black
found
two
like
points
mouth
ing
with an
a line
one.
pairs
held
sub-

conspicuous large, and
centrally in the black patches

Cole
found

yellow appearing on 2 ant & on abd
legs, a

Next Ste mego hafa Aug 13 1893

En an acts Hennichia mesonema 1/2

d & St corn beneath ground, the neck,

1. honey of horn with no distinct
2. ahead threads, crusty, brittle.

elliptical 8x4 mm.

Subst. Pupa like fly, but wings

very pale, rudimentary, all brownish

in large, yellow the legs, coxae &

July 11. 2 antennae dense. Eyes

blackish.

Heinrichia americana

Phor

abundant

abundant

Cule...

Found 4

Aug 1 1893 Graeser latitator

.31 .42 .56 .76 L 1.0 1.4 1.9 rat .74
.32 .4 .55 .75 L 1.1 1.4 1.4-7

OUT

Alder Sawflies, Woodstock, July 8, 1893.

in saw cuts on petiole & base of under

elbow, lateral but opening below, on one

& both sides of stem, nearly continuous

eating holes in the leaf between ribs

or other large. (Sawfly hole)

stage had 1.4 well rounded, slightly pointed

at vertex, and conspicuously flattened

before, shining black, sparsely pilose

the feet spreading black, pale at points

1st-4th on 6-12, 13 feet. Body smooth

unmarked creased, not shining

subtranslucent greenish ochre with an

even continuous black lateral line

and geminate interrupted s-v line.

2 trans row of smooth inconspicuous

concolorous setiferous tubercles

of annulate size, arranged sub-

ventrally in the black patches

7. ~~Legs joint. Part of body vigorously~~
~~but apparently not the vent glands~~
 1. ~~Venter pale. 2 & 13 just darker other~~
 1. ~~Stage hd. 1. Same, Ant. hd pale, more~~
~~brownish & the feet only marked with~~
~~black. Hd somewhat densely pilose~~
~~body tubercles brownish tinged.~~
 1. ~~Stage hd. 75- Hd blackish brown, eye~~
 2. ~~black, shiny, minute pilose. Tho~~
~~feet pale. Body somewhat same, but~~
~~the tubercles are larger in proportion~~
~~& the s & black patches are rounder~~
~~& more evidently covering the and a~~
~~few patches of tubercles.~~
 2. ~~Stage hd. 53- Hd brown, eye black,~~
~~mouth dark shiny. Body~~
~~greenish yellow, rather vivid &~~
~~only slightly shiny. The feet slightly~~
~~marked with black, a trace of lat~~
~~& broken s & lines on body, more distinct~~
~~centrally. Setae on tubercles blackish~~

~~Stage 44-45. HS pale brownish, eye black
mouth brown, smooth. Body rather
dark brown, above, subtranslucent
not shiny, greenish tinged. Two
trans. rows of tubercles, with very
minute setae (Subconical), quite
large & distinct, blackish.~~

Stage hd. 30 eating a little hole in leaf.
 45 rounded, higher than wide, pale brown.
 eye black. Body curled S shaped outside
 the hole one on side or the other. Larva
 moves readily through. Annulate,
 translucent honey yellow, not very
 shiny; alternating canal giving a
 greenish tinge (Same as hds 1.4 Larva
 hd 1.4 same but smooth. White spiracles
 by hairy areas, also represented by
 fine cilia. Color all opaque yellow
 as the al. canal is empty. Black mouth and
 1.4 hds of 2 larvae entering ground one

Calc. .24 .34 .48 .69 .98 1.4 2.0
 Found .25 .33 .5 .7 1.0 1.4 2.0
 Also on *Bumelia carolina*
 Different height in N.H. M. OUT

Sugarplum sawflies on *Amelanchier canadensis*, Woods Hole, Mass., July 8, 1893

perforating the leaves in small scattered patches from the under side.

Stage hd 1 mm, round, smooth, shiny, greenish testaceous eye black, mouth brown; projecting, not at all retracted.

Thorax a little enlarged, the feet spreading widely, not concealed, abd. slight, tapering, just gradually from the thorax. Feet 6-11, 13. Seps 4-annulate, smooth, without tubercles, not shining. Of a pale

clean green, the abdominal canal showing dark green. The feet greenish watery. abd feet short, with pale sub-v. region. concolorous. Anal plate rounded.

Stage hd .5 Same but pale throughout

Saw at Plattsburgh, N.Y. Sept 11. Larva, hd 2.0 but both hd & body slightly white bloom obscuring surface of body.

the head almost whitish. 82 is small. hd 1.5, 1.5, 1.0, 1.0, 2.0, 1.4, .5, .7, 1.0, 1.5, .5. Stage hd 2.0 Hd light testaceous, faintly wrinkled, smooth, shiny, annulate reticulated. Eye black, mouth brown, held forward. Slightly depressed, thorax slightly thickened both up & sideways, abd slightly tapering the feet spreading. Same as in stage 1 mm. Slightly smooth, but not shiny.

Stage hd 1.4 Same as stage 1.0

Stage hd .7 Much as in 1.0, but paler, same in all points, but color darker than .5 st.

Big larva eats the whole leaf, but still rests on the back. At hd 2.0. Largest st hd 1.5. Head feels over to whitish with bright green dorsal band.

St hd 2.5 round, higher than wide but not narrowing to vertex. Shiny, eye black, mouth brown.

Stage hd .33 Similar. Eye on black spot, mouth brown. Hd rather higher. Larva in surface of ground, light brown, rather flexible. 4 x 5 mm. double, very. Fly out Apr 23 1894. Larva from *Nematodes thoracicus*.

N

July 2, 1893

Willow Sawfly. Woodchuck July 8. On

Salix, solitary on back, eating end of leaf from below. Eat whole leaf.

Stage hd 1.0 mm Hd wider than high, conical

projecting, shining black with a few hairs

Ord. a uniform width, rather wider than

high, slightly smaller at both extremities.

Stage conspicuous black anal plate

the low, obscure but rather large white

tribe. bear evident strip recurved

simple white hair. Body pale honey.

yellow shading into orange on 2-3,

12-13, a row of large round seg. 5-d

black spots & a minute smaller sub-

ventral row. Abd. feet 6-11, 13 with the

feet slightly shading, not con-

spicuous from above. Male or

blackish tinged. Same hair all but not ab. canal

OUT

5 ventral glands 6-10, longer than feet, blackish

(beak) hazel nut

Saw fly on alder-like stuff with

O

Calc. .30 .43 .62 .88 1.26 1.8 r.70
Found .45 .65 .9 1.25 1.8

Other Aug 5, 1893

Stage hd .9*mm Hd round, shining, very black. Body shining, coarsely flaccid annulate, smooth with minute setae seen with lens. Uniform slightly dusky green without marks, but the feet marked with black at base and tip and a series of large obscure patches ventrally on 6-10

Stage hd 1.25 Flat before with ch. real dents; shining black legs shiny & annulate, setae with very slight showing

*The change to .9 made before calculating

Probably July 25, 1893 *Xerixatus conylus*

N

OUT

5 ventral glands
6-10, longer than
feet, blackish

(beakless hazel nut)

Willow Sawfly. Woodruff July 8, 1893

July 8

leaf

Stage hd

prolegs

Ord, 1st

high sh

Stage

The low

Triangular

sample

yellow

12-13

black of

ventral

set of

specimen

blackish

concolorous bases. Chrysalis
green, shaded with blackish
s-d and on s-v ridge. Ventrals
blackish withversible
glands as in mature larva
abd feet 6-11, 13 post.

Egg in central confluent
incision along back of
midrib, the egg appearing
to have swollen and then
out and been slightly altered
mating they were so close
together they may have been
9 x 4 mm, could hardly
have been more.

Plattsburgh N.Y. Aug 31, 1893. On
hazel a sh hd. .5 mm, black.
Larva stage hd. .65 shiny black
ish, rounded, eye black. mouth
a little paler. Body shiny,
unmarked, whitish, the al.
canal giving a distinct light
green shade. The feet
large black, a row of
blackish spot along
s-v ridge. a pair of black
anal conical points
abd. feet 6-11, 13. no tubercles
Measurement gave .45. It
was rather badly spread.

Plattsburgh July 25, 1893 *Crassus laticollis*
Peripatus corylus

N

9F
July 24, 1893

Willow Sawflies. Wood roll July 24, 1893

Antennae

Leaf

Stage 1

Prolegs

Body

High

Stage

Throat

Tracheae

Wings

Yellow

12-13

Black

vent

feet

Spots

Black

Black

Black

OUT

5 ventral glands
6-10, longer than
feet, black

(beetles) not

Saw fly on alder-like stuff with

like the 1st stage Corylus rostrata

Stage 1.8 40 corn, a row of 10 tubercles

bordering elytra - entire shiny black

body small, curved S-shaped for defense

whorled on edge outer. Ant. 12

11, 13. Tho feet spreading. Body segs

coarsely 4-annulate, smooth shiny

tubercles represented by minute dark

setae. Color honey brown, d. seg. in st.

spiracle and st. elevation bright

with glaucous black. Tho. feet

pale tinged with black. 2. 5-seg. ant.

resembles black saw fly (K), but the color

is a fine watery amber brown, the black dorsal

lateral ground apparent without molting

Corn between layers of paper that held

the ground. Thin. paper like but shiny,
opaque black, elongated 8x3.5 mm.
Hatched by July 25, 1893 Craesus laticulus
versutus Corylus

some hairs all
but not at small

abundant in various stages
on willow Jefferson Highlands
N.H. 1895-1896
July 1. 1895

5 reversible pale yellow
OUT ventral scent glands
behind feet 6-10

SCENTED WILLOW SAW FLY ~~Nematodes~~ ~~complanatus~~

Willow Sawfly, woods Holl. July 8, 1893

gregarious edge eaters, body whorls
without reversible ventral glands.

Egg Laid in masses on under side of leaf
on surface, not sawed at all, the dried
empty skin .8 x .4 mm in size

Stage hd 1.4 Hd well rounded, clypeus large
quadrate smooth, shiny black, the
structure below (a 2 ocellus?)
Antennae 2 ocellus honey yellow. Body
normal for whorls, terminal segs.
somewhat smaller. The feet large, abd
on 6-11, 13 post, the last small: a black
anal plate with terminal pair of
spines. Segs 4-5 annulate, smooth
slightly shining, the tubercles ^{S-V} ~~black~~
d but represented laterally by large
smooth rounded shining black
prominence, much larger S-V.

Cule	.34	.48	.69	.98	1.4	ratio .70
Found	.3	.5	.7	1.0	1.4	

A d & s-d row of irregular edged, round
black spots, 4 per seg in straight era
line, not shiny like the s-v tubercles

Body light green, 2, 12, 13 post orange.
Venter orange tinted. The feet black
except at joints, abd. green

Stage hd 1.0 Same, black marks smaller

Went down without shed skin seen
(searched in corn 1.4 mm) Corn beneath

ground, thin, elliptical, black, of
uniform texture not showing striae,

hymenoptera like. 6-7 x 2 1/2 - 4 mm

Other Aug 4 8 h hd .3 round black as in

.5 stage eating holes near eggs. Hd rounded

feet at water black. Body held S-shaped

The feet blackish. Body annulate, shiny green

ish yellow, pale, the 2 rows of S-V tubercles

visible, smoky, more green dorsally anal

plate small, black

Molt Aug 5 (8 h hd .5) Hd .7 same black anal

plate & black spines. Lat & S-V tubercles
blackish. S-d black spots faintly indicated

Stages before July 28 1893 ^{Reddish scent very evident} Light green, 2, 12, 13 post
NEMATUS ^{dark yellowish}

Abundant in various places

Cube. 43	.55	.71	.91	1.2	1.6	2.1	2.9
Found	.55	.7	.9	1.2	1.6	2.1	2.5

Prunus serotina, *Prunus maritima*

Wild cherry web sawflies, woods Holl July
Spring a dewy-beaded web among the
leaves. Web thin, dew dries smaller

Some sh. hds 1.1 & 1.15 black; .7 dark brown

Eggs laid in a mass on back of leaf
without saw cuts. Hides found, and one

unhatched, elliptical, prob. white
(alt. 1.6 x 1.6 white)
(yellowish) Length 1.2 mm, w. .4 mm

Sh. hd. .55 rather higher than wide, round
smooth, suture very faint, but

clypeus apparently not quite as high
as vertex; antennae very short, scarcely
perceptible, in front of the large black

ocellus. Color dark brown. Pale a faint

Sh. hd. .7 or .75? Clypeus Δ very large but

not attaining vertex. Small pointed

jointed antennae in front of ocellus

Color blackish brown, darker on sides

ant. .76 Just hatched June 15, 1896 Van Cortlandt
Park N.Y. Hds .5 \pm . Hd blackish brown
pale on face, anal bl. c. processes dusky. Body
all whitish yellow, annulate, slightly shiny.
Sh. hd. .9? Much as before, but rather

darker and antennae more prominent

Sh. hd 1.2 Clypeus very large Δ , upper
side pieces small, not reaching half
way down, lower side piece large

bearing a 5-jointed pointed antennae
before ocellus & a little above. Hd very
shiny, black with brown shade.

mouth parts projecting. Hd smooth, clypeus
slightly indented.

Stage hd 1.6 Hd ^{large} round, rather wider than

high; clypeus large broad, $\frac{3}{4}$ to vertex

Antennae with large insertion before
eye, 5-jointed, .5 mm long, terminal joint

pointed; labrum large, palpi rather small
distinctly pointed, ^{color shiny black} Body slightly flattened

with distinct S-V folded ridge. Tho

feet small, 4-jointed, pointed,

black, no larger than antennae

just hatched same as before, but darker and antennae more prominent

The 2 ends look alike both shiny
black with conspicuous jointed appendages,
and useless. No abdominal feet
but a pair of 3 jointed pointed ^{ventral}
black appendages, rather longer than
the thoracic feet on joint 13 just S-V.
^{more lateral than the feet}

Segments coarsely 4-annulate smooth
Body opaque dull greenish with an
orange next d band, a medioventral
band & broad markings following
the outlines of the lateral and S-V
foldings. Anal plate black as
also 13 just ventrally. ^{water} S-sh.

A slight ventral prominence on 12 repre-
sented by feet but without any trace of feet
Another hd 2.2 Same Ant. same long. color
greenish orange, the lines true orange
Stage hd 1.2 Same except dorsal anal
plate absent centrally. Orange only. C-sh
body all orange medioventral humpless

Later moults as in next. Ant. less distinct
molt July 18 sh hd 2.2. new hd 2.5? Body same
greenish with orange bands as before

hd, thor. feet, subanal
plate & cerci (?) & anal
plate shiny black
but the latter is broader
more than a black mark
& has a central greenish
orange spot. C-sh. eyes
center, blackish.

July 22 Turned somewhat
green with only traces of
orange markings, ^{which are} left web
and lateral greenish

Black part dorsal band
not visible

Head hd 2.4, 2.55 2.50 2.5 2.1
width subanal plate 2.8 mm

